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| 10/687,727 | 10/16/2003 | Noriyuki Nishi | NY-KIT-360-US | 4623 |
| 24972 7590 12/27/2007 FULBRIGHT & JAWORSKI, LLP 666 FIFTH AVE NEW YORK, NY 10103-3198 | | | EXAMINER WOLDEMARIAM, AKILILU K | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--|-------------------------------------|
| Office Action Summary | Application No. 10/687,727 | Applicant(s) NISHI ET AL. |
| | Examiner Aklilu k. Woldemariam | Art Unit 2624 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on October 9, 2007 has been entered. **Claim 12** has been amended. **Claims 11-20** are still pending, with claims 11, 14, 15 and 16 being an independent.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 11-15** are rejected under 35 U.S.C. 102(b) as being anticipated by Haruo (EP number 0933 952 A2 from IDS).

Regarding claim 11, Haruo discloses an image processing method for correcting values of each pixel constituting color image data by shifting, in a coordinate system, a mathematical correction function defining correction Values for input values (see abstract), the method comprising the computer-implemented steps of determining a maximum value and a minimum value among correction values (b, g, r) of respective color components obtained for each pixel by using the correction function (see abstract and fig.5), calculating differences (Δb , Δg , Δr) between the respective correction values of the respective color components and the minimum value (see abstract and (paragraph [0062], [0063] and [0064])

, and calculating a difference (DR) between the maximum value and the minimum value (see abstract and paragraph [0062], [0063] and [0064]);

dividing the calculated differences (Δb , Δg , Δt) between the respective correction values the respective color components and the minimum value the calculate difference (DR) between the maximum value and the minimum value (see paragraph [0031] and [0032]) , thereby to obtain color ratios (gain factor) (Cb, Cg, Cr) for the respective components (paragraph [0031], [0062], [0063] and [0064]));

determining , as an inappropriate pixel, any pixel having a correction value overflowing from a predetermined maximum output gradation value (see paragraph [0033] and [0034]) and setting the overflowing Correction value to the predetermined output gradation value (see paragraph [0033] and [0034]) and determining, as an inappropriate pixel, any pixel having correction value under flowing from a predetermined minimum output gradation value (see paragraph [0007] lines 11-16 and it is obvious that if the color value is less than threshold value, the it is under flowing) and setting the under flowing correction value to the predetermined the minimum output gradation value (see paragraph [0007] lines 11-16 and it is obvious that if the color value is less than threshold value, the it is under flowing); and controlling color balance adjustment so as to cause the correction value of the inappropriate pixel to agree with the respective color ratio thereof (see paragraph [0006] and [0031]).

Regarding claim 12, Haruo discloses the image processing method of claim 11, Wherein the step of controlling utilizes sums of the minimum value (see paragraph [0010]) and respective values obtained by multiplying a difference between the maximum out gradation value (see paragraph [0033] and [0034]) and the minimum value by the color ratios as the respective final pixel values if the correction value of at least one color component overflows from the maximum output gradation value (see paragraph [0010], [0019], [0031] and [0032])

Regarding claim 13, Haruo discloses the image processing method wherein the step of controlling utilizes the product value obtained by multiplying the maximum value by its color ratio as its final pixel Value if the correction value of at least one color component underflows from the minimum output gradation value(see paragraph [0010], [0019], [0031] and [0032] and [0007] lines 11-16 and it is obvious that if the color value is less than threshold value, the it is under flowing).

Regarding claim 14, Haruo discloses an image processing apparatus for correcting pixel values of each pixel constituting color image data by shifting, in a coordinate system, a mathematical correction function defining correction values for respective input values, the apparatus comprising a color balance adjustment section for adjusting color balance of the corrected image data, the color balance adjustment section (see paragraph [0006]) comprising a calculating section for determining a maximum value (see abstract and fig.5) and a minimum value among correction values (b, g, r) of respective color components obtained for each pixel by using the correction function, calculating difference (Δb , Δg , Δt)

between the respective correction values of the respective color, components and the minimum calculating a difference (DR) between the maximum value and the minimum value (see abstract and paragraph [0062], [0063] and [0064]), and dividing the calculated differences (Δb , Δg , Δt) between the correction values of the respective color components and the minimum value by the calculated difference (DR.) between the maximum value and the minimum value, thereby to obtain color ratio (Cb, Cg,. Cr) for the respective color component (paragraph [0031], [0062], [0063] and [0064]));

a judging, section for determining as an inappropriate pixel any pixel having a correction value Overflowing from a predetermined output gradation value (see paragraph [0033] and [0034]) and setting the overflowing correction value to the predetermined maximum output gradation value (see paragraph [0033] and [0034]), and determining as an inappropriate pixel, any pixel having a correction Value under flowing from a predetermined minimum output gradation value (see paragraph [0007] lines 11-16 and it is obvious that if the color value is less than threshold value, the it is under flowing) and setting the under flowing correction value to the predetermined minimum output gradation value (see paragraph [0007] lines 11-16 and it is obvious that if the color value is less than threshold value, the it is under flowing); and

a gradation value determining section for controlling balance adjustment so as to cause the correction values of the inappropriate pixel to agree with the respective color ratio thereof (see paragraph [0006] and [0031]).

Regarding claim 15, Haruo discloses computer-readable medium comprising code for correcting pixel values of color image data, the code (see abstract) comprising instruction for determining maximum value (see abstract and fig.5), and a minimum value among correction values (b, g, r) of respective color components obtained for pixel by using the correction function, calculating differences (Δb , Δg , Δr) between the respective correction values of the respective, color component maximum value, and calculating a difference (DR) between the maximum value and the minimum value (see abstract and paragraph [0062], [0063] and [0064]);

dividing the calculated differences (Δb , Δg , Δr) between the respective correction values of the respective color component and minimum value by the calculated difference (DR) between said maximum value and said minimum value, thereby to obtain color ratios (Cb, Cg, Cr) for the respective color components (paragraph [0031], [0062], [0063] and [0064]);

determining, as an inappropriate pixel, any pixel having a correction value overflowing from a predetermined maximum output gradation value (see paragraph [0033] and [0034]) and setting the overflowing correction value to the predetermined maximum output gradation value (see paragraph [0033] and [0034], and determining, as an inappropriate pixel, any pixel having a correction value overflowing from a predetermined minimum value (see paragraph [0033] and [0034] and setting the under flowing correction value to the predetermined value

(see paragraph [0007] lines 11-16 and it is obvious that if the color value is less than threshold value, the it is under flowing);

controlling color balance adjustment so as to cause the correction values of the inappropriate pixel to agree with the respective color ratio thereof (see paragraph [0006] and [0031]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 16-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Haruo as applied to claims to above in view of Tamai (U.S. Patent number 5, 949, 556).

Regarding claim 16, Haruo discloses an image processing apparatus for outputting image data consisting of a plurality of image data described in the RGB color system in a predetermined gradation range (see abstract and paragraph [0017], [0059] and [0091]), the apparatus comprising a conversion section for converting the image data the RGB color system into a different color System for image quality adjustment to provide converted image data (see paragraph [0026], [0044] and [0084]); an image quality adjustment section for adjusting image quality of the converted image data (see paragraph [0093]); and a color balance adjustment section for performing a predetermined calculation on pixel values of

the respective color components included in each pixel determined as being out of the predetermined gradation range by the judging section, thereby to cause the pixel values thereof to be confined within the predetermined gradation range (see paragraph [0012], [0017], [0059] and [0091]), and adjusting the pixel values of the each pixel to fixedly maintain a ratio among the pixel values of the respective color components based on the minimum value among the pixel values (see paragraph [0006] and [0031]).

Haruo does not disclose a reverse conversion section for reverse converting the image quality adjusted image data back into the RGB color system to provide a reverse- converted image data; a judging section for determining whether pixel values of each pixel constituting, the reverse-converted image data are confined within the predetermined gradation range.

However, Tamai discloses a reverse conversion section for reverse converting the image quality adjusted image data back into the RGB color system to provide a reverse- converted image data (see abstract and fig.3 and column 3, lines 45-52); a judging section for determining whether pixel values of each pixel constituting., the reverse-converted image data are confined within the predetermined gradation range (see fig.3 and 14 and abstract and column 3, lines 45-52)

It would have been obvious to someone of the ordinary skill in the art at the time when the invention was made to use Tamai's a reverse conversion section for reverse converting the image quality adjusted image data back into the RGB color system to

provide a reverse- converted image data in Haruo's an image processing because it will allow to out put high quality image data, [Tamai, see abstract, line 7].

Regarding claim 17, Tamai discloses the image processing apparatus of claim 16, wherein the color balance adjustment section is operable to fixedly maintain an average value of the pixel value of each color component contained in the pixel prior to the adjustment (see column 5, lines 42-54).

Regarding claim 18, Haruo discloses the image processing apparatus of claim 16, wherein the judging section is operable to determine a maximum, pixel value contained in the pixel as overflowing from the predetermined gradation range (see paragraph [0012], [0017], [0059] and [0091]); and wherein the color balance adjustment section is operable to cause the maximum value to agree with the maximum value of the predetermined gradation range (see paragraph [0012], [0017], [0033], [0034], [0059] and [0091]).

Regarding claim 19, Haruo discloses the image processing apparatus claim 16, wherein the judging section is operable to determine a minimum pixel value contained in the pixel as under flowing from the predetermined gradation range (see paragraph [0007] lines 1-15 and [0011]); and wherein the color balance adjustment section is operable to cause the minimum pixel value to agree with the minimum value of the predetermined gradation range (see paragraph [0012], [0017], [0022], [0057] and [0091]).

Regarding claim 20, Haruo discloses the image processing apparatus of claim 16 wherein the color balance adjustment section is operable to maintain the

ratio and/or the average value of the pixel value of the pixel for adjustment (see paragraph [0006] and [0031]).

Response to Arguments

6. Applicant's arguments filed October 9, 2007 have been respectfully considered and they are persuasive. **Regarding 35 U.S.C 103 rejection of the claims invention, the applicant's argued that with references (Noguchi, Yamashita and Hibi) do not disclose the claims invention,** The examiner agreed and withdraw the non-final rejection with the references (Noguchi, Yamashita and Hibi). And the examiner maintained the non-final rejection with references (Haruo and Tamai).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aklilu k. Woldemariam whose telephone number is 571-270-3247. The examiner can normally be reached on Monday-Thursday 6:30 a.m-5:00 p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Samir Ahmed
SPE
Art Unit 2624

A.W.
12/17/2007



SAMIR AHMED
SUPERVISORY PATENT EXAMINER